AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [0005] with the following amended paragraph.

B1

[0005] The inventors have found that various kinds of plastics can levitate at different locations in paramagnetic ~~suspending~~ supporting liquid in balance with the gravitation and magnetic forces due to the difference in their magnetic susceptibilities and densities. In addition, this finding is easily applied to a continuous separation process.

Please replace paragraph [0008] with the following amended paragraph.

B2

[0008] Four forces are acting on a solid plastic material suspended in a supporting liquid medium under a magnetic field: (1) gravitational force, (2) buoyancy, (3) magnetic force directly acting upon the solid plastic material, and (4) magnetic buoyancy acting upon the material from the ~~suspending~~ supporting liquid (Trans. MRS-J, 24 [1] 77 (2000)). The solid plastic material stays at a location where these forces are in balance. This is attained under the condition:

$$B\frac{dB}{dz}=\mu_0 g\frac{\Delta p}{\Delta \chi} \qquad (1)$$

where g is the acceleration of gravity, μ_0 is the magnetic permeability of vacuum, B is the magnetic flux density, z is the vertical coordinate with respect to the center of the magnetic field ($z = 0$), and $z>0$ and $z<0$ denote the upper and lower sides with respect to the center of the field, respectively.

B2

[Please replace paragraph [0009] with the following amended paragraph.]

[0009] The difference in densities between each of the solid plastics and the ~~suspending~~ supporting liquid and that in the magnetic susceptibilities between them are defined:

$$\Delta\rho = \rho_1 - \rho_2 \qquad (2a)$$

$$\Delta\chi = \chi_1 - \chi_2$$

where ρ_1 and ρ_2 are density of the solid plastic component and that of the ~~suspending~~ supporting liquid, respectively, and χ_1 and χ_2 are the magnetic susceptibilities. Since the ~~suspending~~ supporting liquid under consideration is paramagnetic, whereas the plastics are diamagnetic, then $\chi_1 < 0$, $\chi_2 > 0$, and hence, $\Delta\chi < 0$.

Please replace paragraph [0012] with the following amended paragraph.

B3

[0012] The following is the detail description of the present invention.

(1) ~~Suspending~~ Supporting liquid

The paramagnetic liquids used for the ~~suspending~~ supporting liquid should not dissolve the plastics. Aqueous solution of paramagnetic inorganic salts would suffice this condition. For example, manganese chloride, manganese sulfate, iron chloride, iron sulfate, gadolinium chloride, etc. may be used. Paramagnetic inorganic salts having a large paramagnetic susceptibility are appropriate in view of washing after separation and the field strength required. Because the magnetic susceptibility of dilute paramagnetic inorganic salt aqueous solutions is approximately proportional to the concentration, solutions prepared with salts having a large magnetic susceptibility ~~is~~ are suitable for the

B3

use at a low concentration. The optimum concentration is determined by the spatial resolution desired. The spatial resolution depends on the magnetic susceptibility and the density of the plastic, and those of the aqueous solution, along with the profile of BdB/dz of the magnet used.

Kindly replace the paragraph beginning at page 5, line 5, with the following:

B4

Among the aqueous solutions, one prepared with manganese chloride is suited because this solution exhibits large paramagnetic magnetic susceptibility at a low concentration. Under the field strength provided by the electromagnet used, the concentrations ranging 1 to 10 wt% are most suited. If the concentration is too low, the magnetic force becomes insufficient. On the other hand, if the concentration is too high, the density of the ~~suspending~~ supporting liquid becomes so high that most plastic components come to float. As a result, the buoyancy acting upon the plastics becomes to overwhelm the magnetic force, leading to the lack in field strength.

Please replace paragraph [0015] with the following amended paragraph.

B5

[0015] Manganese chloride, manganese sulfate, iron chloride, iron sulfate, and gadolinium chloride could be used to prepare paramagnetic aqueous solutions. The concentration of the solution may be appropriately adjusted depending upon the magnetic field gradient used, etc. Plastics with $\rho_1 < \rho_2$ are separated below the center of the magnetic field, while those with $\rho_1 > \rho_2$ are separated above the center of the magnetic

B5

field. This separation method is also applied to the mixture containing plastics with ρ_1s both larger and smaller than the density ρ_2 of the ~~suspending~~ supporting liquid.

Please replace paragraph [0019] with the following amended paragraph.

B6

[0019] The separation described above can be carried out most effectively under a continuous process in which the ~~suspending~~ supporting liquid are circulated continuously. The detail is described below.

A continuous process is shown in Fig. 4. Plastics are fed into a flow of ~~suspending~~ supporting fluid circulating in a channel. In Fig. 4, the circulating fluid flows from left to right. The plastics that were fed are separated into group A (floating) and group B (sinking) depending on their densities. Then, a magnetic field gradient is applied to the plastics from upward, pushing the floating plastics into the fluid and making them anti-levitated at different locations depending on the kinds of the plastics. Then, the separated plastics are collected by a capturing net (2-1). During this process, plastics belonging to the group B go on moving at the bottom of the channel. Consecutively, a magnetic field gradient is applied to these plastics from downward, pushing these sinking plastics into the fluid and making them levitated at different locations depending on the kinds of the plastics. Then, the separated plastics are collected by a capturing net (2-2). The level and quality of the ~~suspending~~ supporting fluid is maintained by adding additional suspending liquid.

Please replace paragraph [0022] with the following amended paragraph.

[0022]

(Example 2) Particles are levitated above the center of the magnetic field:

B3 Pellets (poly(methyl methacrylate) (PMMA) and poly(ethylene terephthalate) (PET)) were suspended in an aqueous solution of manganese chloride (ρ_2=1.098 g/cm^3, χ_2 = 1.7 x 10^{-4} filled in a test tube of diameter of 2 cm. The size of each pellet was ca. 5x5x5 mm^3. Since the densities of these pellets were higher than that of the ~~suspending~~ supporting solution, they were sinking at the bottom of the test tube in the beginning. Then, when the test tube was moved from above the magnetic center, each pellet was levitated at different locations as shown in Fig. 3.

Please replace paragraph [0024] with the following amended paragraph.

[0024] A characteristic feature of the separation method proposed in the present invention is summarized as follows: Under a magnetic field gradient, solid plastic particles floating and sinking in a ~~suspending~~ supporting liquid, most suitably in a paramagnetic one, are levitated at different locations depending on their densities and diamagnetic susceptibilities, resulting in a separation.

B4